ants, or other sources of professional advice. Other studies have suggested that such advice is sought more frequently than indicated by this survey.

Similarly, the survey results do not verify the conclusion of sociological studies that entrepreneurs are usually the children of self-employed parents. Only 42 percent of respondents fell into this category, while 58 percent said their parents were not self-employed.

Location/Employees

The survey question regarding specific factors that influenced firm location was developed from lists of factors determined to be important by various business location studies. In order of importance (multiple answers were allowed), respondents chose sites near customers, reasonable rent, nearness to a freeway or a major street, and nearness to home (see Table 6).

Most new business owners (88 percent) said they were able to find employees with the level of skill required for their jobs, with only 12 percent expressing dissatisfaction in this area. While 47 percent found their employees by word-of-mouth, 21 percent used a newspaper advertisement (see Table 7).

Financing

Financing is usually critical to a new business venture. Four in five respondents indicated that the use of personal assets was their most important source of financing (see Table 8). Second most important was bank loans (38.4 percent). Only 6 percent mentioned venture capital funds, and 3 percent had received financing from the Small Business Administration.

A firm founder's probability of receiving a bank loan is significantly enhanced if he/she were employed the previous year (see Table 9). Those in school may have been classified as unemployed, which might explain why recently unemployed people obtained 21.3 percent of the bank loans. Males received 75 percent, consistent with the male/female ratio of survey respondents and suggesting no sex discrimination in awarding loans. The probability of receiving a bank loan is enhanced if the proposed business is the founder's first, but some bias is suspected since 57.5 percent of the formations analyzed in this survey were by founders starting their first firm. Two-thirds of bank loans went

TABLE 4
MOST POPULAR TYPES OF NEW BUSINESS
Metropolitan Phoenix, 1986

Type of Business*	Number
Restaurants & Supper Clubs	211
Automobile Repair & Service Shops	98
Hairstyling Salons	75
Real Estate Agencies	61
Insurance Agencies	52
Retail Clothing Stores	50
Mortgage/Real Estate Loan Companies	42
General Contractors	42
Medical & Surgical Service Organizations	40
Gift Shops	39
Lawyers	38
Accountants	38
Automobile Repair & Paint Shops	37
Real Estate Developers	32
Travel Agencies & Bureaus	31
Printers	31
Business Management Consultants	27
Automobile Dealers - Used Cars	26
Computer (Wholesale) Stores	24
Laundries & Cleaners	24
Phone Communication Services	22
Investment Firms	21
Furniture Dealers, Retail	21
Fingernail & Manicuring Salons	20
Computer Software Stores	20

*Includes only those types with at least 20 start-ups during 1986.

Source: Center for Business Research, College of Business, Arizona State University; and *Arizona New Business Review*, New Business Publishing, Inc., Phoenix, Ariz.

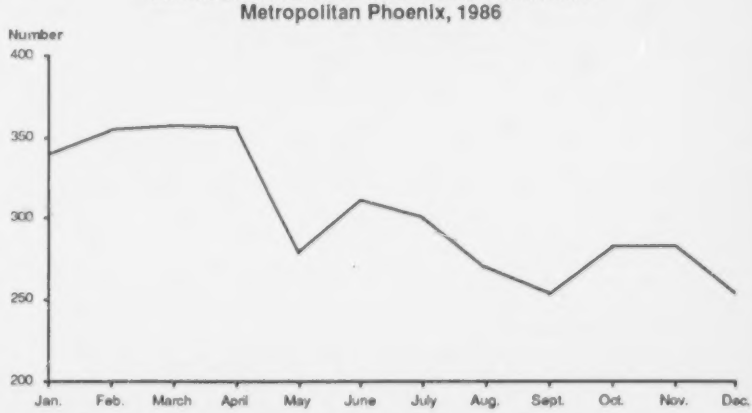
TABLE 5
REASONS FOR CHOOSING ARIZONA
AS PLACE TO START BUSINESS

Reason	*Percent**
Business Opportunity	64.8
Climate	61.1
To Be Closer to Family & Friends	31.5
Western Lifestyle	18.5
Outdoor Recreation	13.0
Strength of Local Government (Schools, Parks, Police, Streets, etc.)	7.4
Other Factors	3.7
Proximity to ASU	1.9

*Since respondents could give multiple responses, percentages do not total 100 percent.

Source: Authors' survey of new business owners in the Phoenix metropolitan area, March 1986.

FIGURE III
ANNUAL PATTERN OF BUSINESS START-UPS
Metropolitan Phoenix, 1986



Source: Center for Business Research, College of Business, Arizona State University; and *Arizona New Business Review*, published by New Business Publishing, Inc., Phoenix, Ariz.

to founders who had experience in the industry of the new formation.

Start-up Problems

The survey asked respondents to identify the most difficult problems they faced in establishing their firm (see Table 10). Financing and cash flow were the greatest obstacles, indicated by 30 percent of all respondents. Another 20 percent selected problems related to name identification (becoming known), competition, and advertising.

CONCLUSIONS

The study of 1986 new business formations revealed how entrepreneurial activity is stimulated by consumer and business demand. Metropolitan Phoenix consumers are demanding restaurants, hair salons, automotive service and repair establishments, and agencies to handle real estate and insurance needs. The demand for medical and legal services follows, and all of these types of business create demand for still other business service firms.

The survey analysis described the characteristics of new business owners and their problems and decisions of an economic nature. One in four of the survey respondents is female, which suggests that women are taking on a significant founding/ownership role in metropolitan Phoenix business start-ups. The data suggest that females with a college degree or post-college education are starting businesses at a younger mean age than their male counterparts.

Perhaps the most interesting findings of the research relate to the failure rate of new businesses, which is extremely high. Little is known about the reasons, however, because it is difficult to survey failed firms. Two observations from this research seem especially important to the business death issue. First, 30 percent of the firm founders were unemployed the previous year. Compounding this statistic is the 30 percent who had no experience in the industry of their new business. The unemployed person's propensity to solve his/her unemployment problems with self-employment may provide a preliminary explanation for business failures.

– **Lee R. McPheters,** *Director Economic Outlook Center*

– **Martha J. Clyde** *Research Associate Center for Business Research*

TABLE 6
SITE LOCATION FACTORS FOR NEW BUSINESSES
Metropolitan Phoenix

Location Factors	*Percent**
Near Customers	53.9
Reasonable Rent	52.6
Near Freeway or Major Street	40.5
Near Home	34.5
Near Suppliers	9.9
Near Similar Businesses	8.2
Other	5.2
Near Airport	4.7
Local Tax Considerations	3.9

TABLE 7
HOW NEW BUSINESS OWNERS FOUND EMPLOYEES

Method	*Percent**
Word of Mouth	47.0
Newspaper Advertising	21.1
Other	20.3
Relatives	15.5
Employment Agency	4.3
Management Consultants	1.3

TABLE 8
HOW SURVEYED FIRMS WERE FINANCED

Method	*Percent**
Personal Assets	81.0
Bank Loans	38.4
Relatives	17.7
Foregone Wages	15.5
Venture Capital	6.0
Friends	3.9
SBA Loans	3.0
Other	3.0

TABLE 9
IMPACT OF SELECTED VARIABLES ON NEW BUSINESS OWNERS' RECEIPT OF BANK LOANS

Variable	*Percent*
Employment Status in Previous Year	
Unemployed (voluntary or involuntary)	21.3
Employed	78.7
Sex	
Male	74.2
Female	25.8
Number of Businesses Formed Previously	
None	56.2
One or more	43.8
Industry Experience Prior to Current Business Formation	
Yes	67.4
No	32.6

TABLE 10
MOST DIFFICULT PROBLEMS ENCOUNTERED IN STARTING A NEW BUSINESS

Problem	*Percent**
Financing and cash flow	29.7
Becoming known, competition, advertising	19.8
Retaining good employees (honest, hard-working, etc.)	14.2
Problems with government, tax compliance, etc.	9.5
Courage to start	3.4
Other	26.3

*Since respondents could give multiple responses, percentages do not total 100 percent.

Source: Authors' survey of new business owners in the Phoenix metropolitan area, March 1986.

"Forecast," from page 1
decline would stimulate U.S. production and exports and, combined with reduced imports, would lower the nation's trade deficit.

As measured by the Federal Reserve Board's trade-weighted index of the value of the U.S. dollar versus 10 major foreign currencies, a considerable decline in the dollar's exchange value has yet to result in significant improvement in the trade deficit. The index (March 1973 = 100) had risen to well over 150 when it peaked in the first quarter 1985; during the next two years, however, the dollar lost more than one-third of its value, falling to less than 100 by second quarter 1987.

Normally, such a steep decline would make imports so costly and American goods so cheap that improvement in the trade deficit would be inevitable. Nevertheless, the trade imbalance remains huge, at an annual rate of almost $150 billion. Exports by U.S. manufacturers have improved somewhat, but American consumers are purchasing imported goods at a record rate.

The national economy also managed to withstand the surge in interest rates that occurred during the early spring. Housing starts, automobile sales and a number of other traditional barometers of economic trends have fallen but remain at reasonably high levels for the maturity of the current expansion.

Overall, the 2.3 percent growth in real GNP recorded during second quarter 1987 exceeded many analysts' expectations, especially considering the first quarter's 4.4 percent growth and the persistently swollen trade deficit. Any optimism that emerged was short-lived, however, as the Federal Reserve Board – responding to fears of a free-falling dollar and subsequent inflation – recently tightened monetary policy. This action drove interest rates up again to a level that would attract the foreign capital required to finance the federal budget deficit.

TABLE 1
1987 AND 1988 ECONOMIC FORECASTS: UNITED STATES

	Actual *1986*	Forecast *1987*	Forecast *1988*
Gross National Product			
Millions of 1982 Dollars	3,713	3,808	3,916
Percent Change	2.9	2.5	2.9
Industrial Production			
Percent Change	1.0	2.6	3.4
Housing Starts			
Number in Millions	1.82	1.66	1.66
Percent Change	4.4	-8.8	0.0
Unemployment Rate			
Percent	7.0	6.4	6.2
Consumer Price Index			
Percent Change	1.9	3.8	4.6
Three-Month Treasury Bill Rate			
Percent Change	6.0	5.7	6.4

Source: Economic Outlook Center, College of Business, Arizona State University

THE U.S. OUTLOOK

Given the current tenor of the financial markets, the Economic Outlook Center's (EOC) national economic forecast, summarized in Table 1, is somewhat optimistic. The forecast, based on the consensus view of the economy summarized in the *U.S. Blue Chip Economic Indicators* newsletter, envisions the next 15 months as a period of positive (if unspectacular) growth.

Inflation is forecast to approach a 5 percent rate by the end of 1988, barring any oil price shocks related to political tension in the Middle East. With the exception of world oil markets, the pattern of price increases is expected to be orderly and stable for the foreseeable future. Higher prices for imports should be offset somewhat by reduced demand for most consumer goods as U.S. households finally begin to retrench and repay the debt accumulated in recent years.

Although consumption – the major source of U.S. economic growth for much of the current business cycle – will slow, increases in domestic production and output related to an expected improvement in exports should enhance the economy's prospects for growth during 1988. Industrial production in the United States is forecast to increase 2.6 percent in 1987 and 3.4 percent in 1988, substantially more than the anemic 1986 gain of 1 percent. Real GNP growth is projected to average nearly 3 percent in 1988, with much of the gain attributable to the anticipated reduction in the trade balance.

Interest rates, while rising during the forecast period, are projected to remain relatively stable. The money markets, along with the situation in the Middle East, represent the principal risks to the forecast. The forecast assumes that the monetary authorities will exercise sufficient control over financial markets to prevent steep increases in borrowing costs before the national elections in late 1988.

The longevity of the current economic expansion can be attributed to the absence of conditions that usually choke off growth in the late stages of a business cycle. Inflation remains low relative to the 1970s and early 1980s; interest rates have yet to surge to prohibitive levels; and labor and key commodities appear to be in good supply.

By 1989, some of these traditional deterrents to growth may become evident. If corporate profits remain strong, increased wage demands could push inflation higher. Inflation also could be aggravated by higher oil prices, higher import prices and lower productivity as skilled labor becomes scarce in some regions of the country. Interest rates may climb as the confidence of foreign investors in the falling dollar erodes, discouraging business investment and housing construction.

A combination of these developments could bring about a recession by 1989 or 1990. It is possible, not likely, that a recession could begin sooner if conditions in the financial

TABLE 2
1987 AND 1988 ECONOMIC FORECASTS: ARIZONA

	Actual *1986*	Forecast *1987*	Forecast *1988*
Gross State Product			
Millions of 1982 Dollars	42,901	44,965	47,260
Percent Change	5.2	4.8	5.1
Personal Income			
Millions of Current Dollars	44,719	47,812	51,548
Percent Change	9.3	6.9	7.8
Retail Sales			
Millions of Current Dollars	17,187	18,232	19,474
Percent Change	6.3	6.1	6.8
Unemployment Rate			
Percent	6.9	7.3	7.0
Wage and Salary Employment			
Number in Thousands	1,341.4	1,387.5	1,443.6
Percent Change	4.9	3.4	4.0
Population			
Number in Thousands	3,332	3,440	3,542
Percent Change	4.1	3.2	3.0
New Single Family Housing Units Permitted			
Number	34,079	28,618	29,010
Percent Change	2.4	-16.0	1.4
New Multifamily Housing Units Permitted[1]			
Number	27,008	10,050	10,620
Percent Change	-27.2	-62.8	5.7

[1]Apartment complexes of three or more units

TABLE 3
1987 AND 1988 ECONOMIC FORECASTS: MARICOPA COUNTY

	Actual *1986*	Forecast *1987*	Forecast *1988*
Consumer Price Index			
Percent Change	1.3	4.3	5.5
Retail Sales			
Millions of Current Dollars	11,342	12,052	12,904
Percent Change	4.7	6.3	7.1
Unemployment Rate			
Percent	5.6	6.2	6.0
Wage and Salary Employment			
Number in Thousands	883.5	915.4	954.6
Percent Change	4.9	3.6	4.3
Population			
Number in Thousands	1,902	1,970	2,035
Percent Change	4.9	3.6	3.3
New Single Family Housing Units Permitted			
Number	23,851	19,384	19,810
Percent Change	3.1	-18.7	2.2
New Multifamily Housing Units Permitted[1]			
Number	18,311	7,170	7,590
Percent Change	-32.9	-60.8	5.9

[1]Apartment complexes of three or more units

Source (Tables 2 and 3): Economic Outlook Center, College of Business, Arizona State University

markets deteriorate during the next few months.

1987-1988 ARIZONA FORECAST

The Arizona economy, which led the nation in employment growth for three consecutive years, no longer is growing at the explosive pace that residents now take for granted. On a seasonally adjusted basis, employment has been flat or falling for several months. At the mid-point of 1987, non-agricultural employment in the state was below the level recorded at the end of 1986. Nationally, employment expanded more than 2 percent per year during the first two quarters of 1987.

The personal income statistics provide more evidence of a weakening economy. During first quarter 1987 (the latest statistics available), Arizona personal income rose 1.8 percent, barely more than the 1.7 percent gain nationally.

The current forecasts for Arizona and Maricopa County, summarized in Tables 2 and 3, reflect a conservative view of the state's near-term growth prospects. Although some improvement is expected during 1988, Arizona will become increasingly vulnerable to a downturn if U.S. economic performance begins to falter.

Personal Income

The most recent 1986 Arizona personal income statistics were much stronger than the preliminary estimates suggested. The 9.3 percent gain posted last year compared favorably with the income growth reported during earlier years of the economic expansion. However, employment and population increases, major contributors to the rapid income growth of prior years, have slowed substantially this year. Accordingly, the Economic Outlook Center expects Arizona personal income to rise 6.9 percent in 1987 and 7.8 percent in 1988, the smallest gains since the 1981-1982 recession. Even so, much of the anticipated increase will be attributable to higher inflation rather than to significant growth in real income.

Inflation and Retail Sales

Retail sales in the Phoenix metropolitan area were unusually weak in 1986. While sales rose 6.3 percent

statewide, Maricopa County experienced an increase of only 4.7 percent. This year, the EOC expects a normal pattern to prevail, with the Phoenix area commanding its customary share – about two-thirds – of Arizona retail sales.

Barring a sudden collapse in consumer spending, improvement in the sales totals can be expected this year. The Center forecasts Maricopa County retail sales to grow 6.3 percent in 1987 and 7.1 percent in 1988, with respective increases of 6.1 percent and 6.8 percent for the state as a whole. This scenario is consistent with retail sales totals recorded to date this year.

Along with stronger spending, higher inflation should contribute to the anticipated gains in retail sales in 1987 and 1988. As measured by the Metropolitan Phoenix CPI, prices increased about 4.2 percent in Maricopa County from mid-1986 to mid-1987. The forecast for all of 1987, unchanged from last quarter, calls for an increase of 4.3 percent. By 1988, inflationary pressures will build slightly, pushing the Metropolitan Phoenix CPI upward by an average of 5.5 percent during the year.

Population and Labor Force

Midyear estimates indicate that the Arizona labor force barely grew since June 1986, partial evidence of the slower rate of population growth, particularly in the Phoenix area. Economists expected this decline as a response to the modest economic gains since early 1986.

Although the EOC has reduced its population projections from the prior forecast, migration to Arizona still is expected to remain strong relative to other states. As Figure I illustrates, despite weak expansion of job opportunities, smaller population and labor force gains should result in a stable unemployment rate in the state through 1988. Unless employment growth improves substantially, the Arizona unemployment rate is expected to exceed the national rate for the duration of the forecast period.

Employment

Population growth in Arizona responds to ebbs and flows in the rate of job creation (see Figure II). Preliminary estimates indicate that em-

FIGURE I
UNEMPLOYMENT RATES
United States, Arizona and Maricopa County
Percent of the Labor Force

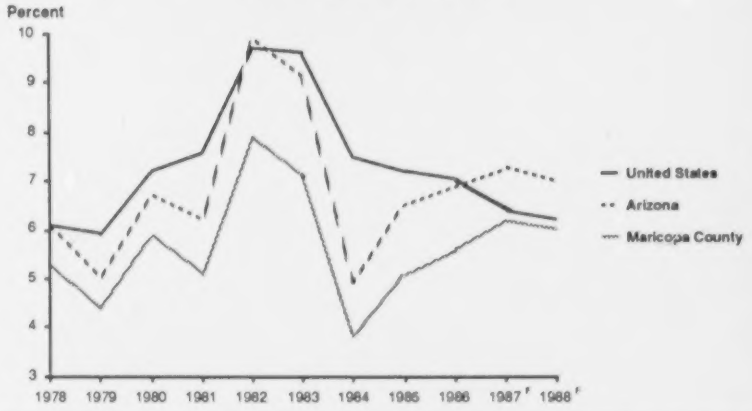


FIGURE II
ARIZONA EMPLOYMENT AND POPULATION GROWTH RATES
1980-1988, Percent Change from Previous Year

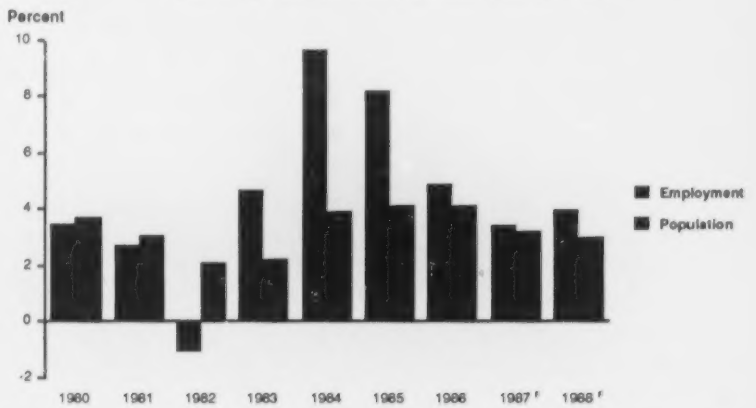
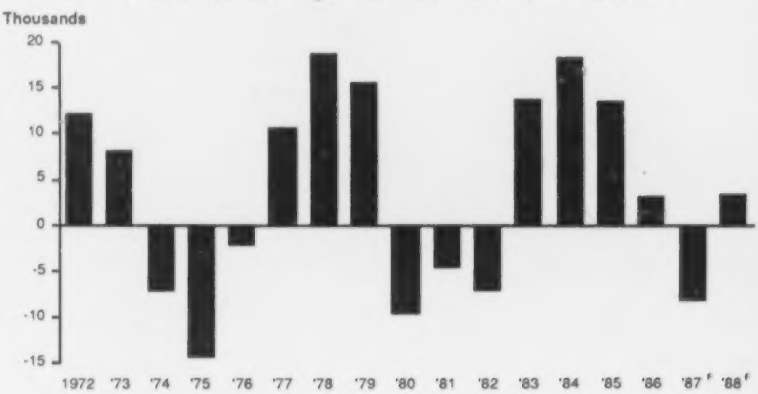


FIGURE III
ARIZONA CONSTRUCTION EMPLOYMENT
1972-1988, Net Change from Previous Year, In Thousands



f Forecast

Source (Figures I, II and III): Arizona Department of Economic Security; and Economic Outlook Center, College of Business, Arizona State University.

ployment increased only 1.4 percent during the 12 months ending July 1987, the weakest growth since the 1981-1982 recession.

Forecasted growth of 3.4 percent in 1987 and 4.0 percent in 1988 may appear unrealistic; in fact, a key factor in the forecast, the projected rebound in high technology manufacturing, has yet to materialize. However, a better performance by the state economy in the next 15 months, combined with expected upward revisions to the preliminary data, should make the forecasts reasonably accurate.

Construction

Much of the weakness in the job situation can be explained by the precipitous plunge in construction employment that has unfolded since July 1986. Nearly 13,000 jobs disappeared during the subsequent 12 months. Figure III shows the fluctuation in Arizona construction employment during previous business cycles.

The EOC predicts that the current building slump will not be as severe as those of the 1970s and early 1980s. If, as expected, interest rates remain relatively stable, population flows continue, and absorption of existing structures improves, construction should be on the rise again in 1988.

However, when the sharp declines of recent months are taken into account, it will take significant improvement by the end of 1987 to prevent the current forecast from being too optimistic. If mortgage interest rates continue to rise rapidly, as they did in early September, housing construction may fall off even more than indicated in Tables 2 and 3.

Risks to the Outlook

Uncertainties in the current forecast stem from three sources: the U.S. trade deficit, rising interest rates, and reductions in defense spending. Should the decline of the dollar fail either to stimulate U.S. exports sufficiently or to curtail demand for imported electronic components, the recovery of Arizona's high technology manufacturing sector may not proceed as anticipated, inhibiting growth in employment and personal income.

A related concern is the course interest rates will take in the months ahead. The forecast assumes a gradual rise in their general level. If foreign investors begin to balk at holding U.S. dollar-denominated assets that are losing value as the dollar drifts downward, higher interest rates will be necessary to maintain foreign capital flows; of course, Arizona's ailing construction industry will suffer.

Changes in planned defense expenditures already have caused layoffs and deferred hiring by the state's durable goods aerospace and aircraft producers. If the federal procurement budget is cut further, even fewer manufacturing jobs will be available than currently forecast.

SUMMARY

While the Arizona economy is weaker than it has been in several years, a recession is unlikely before 1989. Conversely, the probability is low that growth rates comparable to the 1983-1986 experience will be observed anytime soon. In the absence of the potential negative developments outlined above, the Arizona economy probably will grow at a relatively slow pace through the end of 1988.

– **Brian Cary,** *Economist*
Economic Outlook Center

Major Projects Push Construction Forward in Second Quarter

Spurred by the authorization of several major projects in Maricopa County during the second quarter, Arizona construction activity increased to $1.4 billion (25,582 permits) from $1.2 billion (24,041 permits) in the first quarter. Total activity for the state was down slightly from one year earlier, when the dollar value was $1.5 billion (30,411 permits). Total construction activity for the first half of 1987 was $2.6 billion, in contrast to $2.9 billion for the first two quarters of 1986. While no sector dominated the industry, large projects (high dollar value) were the major focus of development during the second quarter. For example, in Phoenix, only six permits, totaling $152 million, represented 36 percent of the $425.7 million recorded for the quarter.

Construction activity in Maricopa County represented 76 percent ($1.1 billion) of Arizona's total dollar value and 63 percent (16,133 permits) of the total issued permits. Development activity in Pima County accounted for 11 percent ($151 million) of the state's total dollar value and 13 percent (3,532 permits) of the permits issued.

More than 85 percent of all construction activity occurred in the 12 reporting units listed in Table 1. Most of the units followed the basic pattern of increased activity over first quarter totals, with significant improvement in cities such as Phoenix ($276 million to $426 million) and Chandler ($52 million to $80 million). Scottsdale, however, reported a decrease from $203 million to $162 million.

SECTORAL ACTIVITY

Residential

During the first few weeks of the second quarter, interest rates rose sharply. For example, the interest rate on a 30-year conventional mortgage jumped from 9 percent to 10.5 percent. As a result, Maricopa County permitted only 5,217 single family homes, which is comparable to the 5,242 units authorized in the first quarter but well below the 7,565 homes permitted one year earlier. In the first half of 1986, 13,622 single family permits were issued, while only 10,459 permits were recorded for the comparable period of 1987. In comparison to second quarter 1986, several cities had significant declines in activity, including Chandler (819 to 244 permits) and Glen-

dale (737 to 333 permits). Only Gilbert reported an increase, from 264 to 303 permits.

With 1,147 permits issued in the second quarter, single family activity in Pima County improved slightly over that of the first quarter (1,132 permits) but was down from one year earlier (1,631 permits). As in the past, more than 70 percent of the permitted homes were in the unincorporated areas of the county.

Unlike the metropolitan counties, other areas of the state reported improvement in single family activity, to 1,484 permits from 1,178 permits in the first quarter and from 1,459 permits recorded for second quarter 1986. Areas that improved over the first quarter were Lake Havasu City (120 to 132 permits), unincorporated Santa Cruz County (36 to 132 permits), and unincorporated Yavapai County (145 to 244 permits).

TABLE 1
REPORTING UNITS WITH GREATEST TOTAL VALUE OF BUILDING PERMITS
Second Quarter, 1987

Reporting Unit	Value (in millions)
Phoenix	$425.7
Scottsdale	161.5
Mesa	137.1
Unincorporated Maricopa County	87.4
Chandler	80.4
Unincorporated Pima County	75.0
Tucson	71.1
Peoria	47.2
Tempe	46.8
Glendale	40.1
Gilbert	36.7
Unincorporated Yavapai County	20.0

Source: Center for Business Research, College of Business, Arizona State University

Commercial

The office building sector, with 90 permits ($165 million) in Maricopa County, sharply rebounded from the $87 million recorded in the first quarter and the $53 million permitted one year earlier. The reported dollar value is near the record $168 million (128 permits) of second quarter 1985. The fundamental difference is that nearly 70 percent of the second quarter 1987 dollar value is attributable to only four permits ($115 million) issued in Phoenix. One permit was for $75 million. Three Tempe permits had a total value of $11 million, and Mesa issued five permits, together worth $2.2 million. As shown in Table 2, the office building sector in Pima County declined to $4 million (13 permits) from $14.7 million (17 permits) in the first quarter . For the rest of Arizona, only the city of Yuma reported significant office building activity, with five permits issued ($1.3 million).

Activity in the state's hotel/motel sector increased to 25 permits ($52 million) from four permits ($36 million) in the first quarter. Phoenix was the leading area, with 17 permits ($38 million) and one permit valued at $25 million. Other active areas included Mesa (one permit, $4.5 million), Paradise Valley (two permits, $2.4 million), and unincorporated Pima County (one permit, $1.6 million).

The apartment sector in Maricopa County continued its sharp decline during the second quarter, dropping to 1,264 authorized units from 1,778 units in the first quarter and 6,413 units in second quarter 1986. For second quarter 1987, the primary areas of activity were Mesa (501 units) and Phoenix (346 units). Pima County reported only 238 units (180 units in unincorporated areas), down from the 822 units permitted in the first quarter and the 1,732 units authorized one year earlier. Only 140 units were permitted for the rest of the state, with 118 units located in Kingman.

The retail sector continued to post quarterly declines, with 183 permits ($63 million), in contrast to 216 permits ($73 million) for the first quarter and 414 permits ($87 million) for second quarter 1986. The leading

TABLE 2
KEY SECTOR CONSTRUCTION ACTIVITY
(Second Quarter 1987, First Quarter 1987, and Second Quarter 1986)

	SINGLE FAMILY		COMMERCIAL						INDUSTRIAL	
			APARTMENTS[a]		OFFICE BUILDINGS[b]		RETAIL STORES[c]			
	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)
Maricopa County										
Second Quarter 1987	5,217	434,060	64	50,191	90	165,161	183	63,579	72	45,474
First Quarter 1987	5,242	430,044	104	63,779	70	86,940	216	73,363	47	30,512
Second Quarter 1986	7,565	500,722	381	169,922	87	53,292	414	86,646	107	37,291
Pima County										
Second Quarter 1987	1,147	70,716	13	8,058	13	4,105	23	15,244	14	2,778
First Quarter 1987	1,132	73,017	48	19,717	17	14,712	27	16,615	6	1,157
Second Quarter 1986	1,631	111,040	57	48,568	25	8,699	36	12,452	8	3,636
Rest of Arizona										
Second Quarter 1987	1,484	93,903	11	3,287	33	4,436	61	10,065	18	1,765
First Quarter 1987	1,178	69,650	13	4,497	19	1,510	69	11,931	23	3,971
Second Quarter 1986	1,459	76,136	9	1,694	46	5,791	73	9,386	19	1,088
Arizona Total										
Second Quarter 1987	7,848	598,679	88	61,536	136	173,702	267	88,888	104	50,017
First Quarter 1987	7,552	572,711	165	87,993	106	102,622	312	101,909	76	35,640
Second Quarter 1986	10,655	687,898	443	220,184	158	67,783	523	108,485	134	42,016

[a] Five or more housing units

[b] Office, bank, medical and professional buildings

[c] Shopping centers and other mercantile buildings

Source: Center for Business Research, College of Business, Arizona State University

areas of retail development were Phoenix (59 permits, $21 million), Mesa (16 permits, $11.8 million), and Scottsdale (6 permits, $8.2 million). Retail development remained fairly stable in Pima County (23 permits, $15 million), where most of the activity was in Tucson (15 permits, $11.8 million). For the rest of Arizona, both the number and value of permits declined slightly (61 permits, $10 million) from the first quarter totals (69 permits, $12 million). Primary areas of development were Bullhead City (six permits, $3 million) and Yuma (two permits, $1.3 million).

Industrial

Maricopa County reported its best quarter for industrial development (72 permits, $45.4 million) since first quarter 1986 (77 permits, $50 million). However, the second quarter pace of development was still well below the record year 1985. Chandler, with five permits ($14.9 million), was the most active area, followed by Phoenix (37 permits, $10.8 million) and Goodyear (two permits, $8 million).

Pima County's industrial activity improved to 14 permits ($2.8 million) from six permits ($1.2 million) in the first quarter. Most of the activity occurred in the unincorporated areas of the county (eight permits, $2.5 million). Statewide, no other area reported industrial activity in excess of $1 million.

Other

Construction of new educational facilities led this diverse sector, with projects valued at $43 million, in contrast to $21 million for the first quarter. Areas of educational activity included unincorporated Yuma County ($14 million), Peoria ($5 million), Tucson ($3 million), and Casa Grande ($3.5 million). Chandler issued one permit, valued at $27 million, for a water treatment plant. Construction of health care facilities continued to be slow, with only seven permits, worth $11.6 million. Most of this activity was in Phoenix (three permits, $6 million) and Mesa (one permit, $5.5 million).

LOOKING AHEAD

While total construction activity remained at a relatively high level through the first half of 1987, the primary focus has been on the development of large-scale projects. These projects tend to have multi-year horizons – many will not open until 1989 – meaning that many developers are looking beyond 1987, even 1988, for potential markets. Thus, development activity is being paced not by existing market forces but by future expectations.

While construction activity appears to be strong, concern exists about whether the pace can be sustained. Several factors appear to foreshadow declining activity for the remainder of the year. First, the single family sector was expected to lead development activity, in response to a growing population and lower interest rates. With the sudden upward movement in interest rates, affordability once again has become a concern. Although interest rates have stabilized around 10 percent, there is no force that will stimulate this sector much beyond the current levels of activity.

Even in an area that has great growth potential, the extent to which

TABLE 3
ARIZONA HOUSING UNITS AUTHORIZED
Second Quarter 1987

	One Family	*Mobile Homes*	*Duplex*	*3-4 Family*	*5 or More*	*Total*
APACHE COUNTY	41	35	0	0	0	76
Percent Change, Previous Year	11	250	-	-	-	62
Percent Change, Previous Qtr.	242	192	-	-	-	217
COCHISE COUNTY	137	133	0	8	0	278
Percent Change, Previous Year	-1	46	-	0	-	13
Percent Change, Previous Qtr.	16	93	-	-	-	45
COCONINO COUNTY	190	95	4	0	0	289
Percent Change, Previous Year	-13	-24	-33	-	-	-21
Percent Change, Previous Qtr.	51	64	-	-	-	57
GILA COUNTY	69	65	0	0	6	140
Percent Change, Previous Year	-18	0	-	-	-	-7
Percent Change, Previous Qtr.	0	35	-	-	-	20
GRAHAM COUNTY	15	46	0	0	0	61
Percent Change, Previous Year	-21	-18	-	-	-	-19
Percent Change, Previous Qtr.	7	12	-	-	-	-31
GREENLEE COUNTY	0	0	0	0	0	0
Percent Change, Previous Year	-	-	-	-	-	-
Percent Change, Previous Qtr.	-	-	-	-	-	-
LA PAZ COUNTY	1	17	0	0	0	18
Percent Change, Previous Year	-	-	-	-	-	-
Percent Change, Previous Qtr.	-88	-71	-	-	-	-73
MARICOPA COUNTY	5,217	353	6	42	1,264	6,882
Percent Change, Previous Year	-31	-8	-96	-74	-80	-53
Percent Change, Previous Qtr.	0	-23	-85	-56	-29	-10
MOHAVE COUNTY	299	199	0	4	118	620
Percent Change, Previous Year	57	-18	-	0	-	41
Percent Change, Previous Qtr.	4	-35	-	33	291	-1
NAVAJO COUNTY	134	36	0	4	0	174
Percent Change, Previous Year	-4	20	-	-	-	3
Percent Change, Previous Qtr.	185	71	-	-	-	129
PIMA COUNTY	1,147	38	22	12	238	1,457
Percent Change, Previous Year	-30	-93	22	-29	-86	-63
Percent Change, Previous Qtr.	1	-78	-45	-25	-71	-33
PINAL COUNTY	88	127	0	0	0	215
Percent Change, Previous Year	-46	-42	-	-	-	-45
Percent Change, Previous Qtr.	-7	18	-	-	-	0
SANTA CRUZ COUNTY	136	3	0	0	0	139
Percent Change, Previous Year	700	-25	-	-	-	276
Percent Change, Previous Qtr.	278	0	-	-	-	202
YAVAPAI COUNTY	385	116	2	87	16	606
Percent Change, Previous Year	-11	-38	-93	278	-75	-18
Percent Change, Previous Qtr.	50	-13	-96	142	-75	20
YUMA COUNTY	52	48	0	0	0	100
Percent Change, Previous Year	-45	-58	-	-	-	-52
Percent Change, Previous Qtr.	-53	-67	-	-	-	-67
TOTAL, ARIZONA	7,911	1,311	34	157	1,642	11,055
Percent Change, Previous Year	-28	-36	-85	-38	-80	-48
Percent Change, Previous Qtr.	5	-20	-64	-9	-41	-10

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Center for Business Research, College of Business, Arizona State University

major development can be undertaken is limited. Thus, the number of major projects that will be permitted should decrease over the rest of the year.

The final factor that will affect all aspects of construction is the outlook for the Arizona economy. For the past few years, the economy has grown at a rapid rate, greatly exceeding national economic growth. In the last few months, however, this growth has slowed considerably, to a rate less than that of the national economy. The state's economy will continue to grow but at a somewhat slower pace, which will affect the level of new construction throughout Arizona and especially in Maricopa County.

The current year continues to be a good one, not a great one, for the construction industry. No strong forces are evident that would propel the industry to new levels in the next year. Basically, expectations continue that construction activity will be slow as developers carefully examine the current and, especially, the future strengths and weaknesses of the market.

– Jay Q. Butler

Dr. Butler is Associate Professor of Real Estate and Director of the Arizona Real Estate Center in the ASU College of Business.

TABLE 4
ARIZONA BUILDING PERMITS
Second Quarter 1987

	Residential*		Commercial		Industrial		Other		Total	
	Number of Permits	*Dollar Value (000)*	*Number of Permits*	*Dollar Value (000)*	*Number of Permits*	*Dollar Value (000)*	*Number of Permits*	*Dollar Value (000)*	*Number of Permits*	*Dollar Value (000)*
APACHE COUNTY	98	3,203	4	214	0	0	8	64	110	3,481
Percent Change, Previous Year	42	47	-43	-15	-	-	33	-80	34	36
Percent Change, Previous Qtr.	283	311	300	-14	-	-	100	327	244	233
COCHISE COUNTY	460	10,332	20	1,496	0	0	252	645	732	12,473
Percent Change, Previous Year	14	3	11	-30	-	-	31	-78	19	-16
Percent Change, Previous Qtr.	38	41	-9	-24	-	-	33	-81	33	13
COCONINO COUNTY	481	16,617	47	2,058	2	525	135	544	665	19,742
Percent Change, Previous Year	-8	6	194	-63	0	672	-6	-92	-3	-29
Percent Change, Previous Qtr.	84	53	21	27	100	1,584	39	-59	67	43
GILA COUNTY	255	5,871	17	563	0	0	71	3,740	343	10,174
Percent Change, Previous Year	-6	0	55	-5	-	-	54	496	4	43
Percent Change, Previous Qtr.	24	12	-48	-82	-	-	65	3,043	20	19
GRAHAM COUNTY	117	1,774	14	389	1	8	31	324	163	2,495
Percent Change, Previous Year	-4	-13	180	154	-	-	94	776	14	12
Percent Change, Previous Qtr.	11	15	17	-96	0	-94	288	1,925	29	-10
GREENLEE COUNTY	0	0	0	0	0	0	0	0	0	0
Percent Change, Previous Year	-	-	-	-	-	-	-	-	-	-
Percent Change, Previous Qtr.	-	-	-	-	-	-	-	-	-	-
LA PAZ COUNTY	59	471	5	668	2	216	16	54	82	1,409
Percent Change, Previous Year	392	1,470	400	1,453	-	-	433	350	413	1,558
Percent Change, Previous Qtr.	-54	-69	-58	46	-	-	-69	-58	-55	-34
MARICOPA COUNTY	7,944	490,216	633	352,622	72	45,474	7,484	198,473	16,133	1,084,785
Percent Change, Previous Year	-19	-6	-34	6	-33	22	-7	11	-15	2
Percent Change, Previous Qtr.	-6	9	5	24	53	49	19	81	5	21
MOHAVE COUNTY	884	22,761	43	8,428	5	320	403	3,335	1,335	34,844
Percent Change, Previous Year	-9	62	95	190	25	12	-6	90	-6	83
Percent Change, Previous Qtr.	-7	3	2	230	-38	-89	38	34	3	16
NAVAJO COUNTY	318	10,719	7	456	1	18	52	267	378	11,460
Percent Change, Previous Year	0	51	-61	-27	-50	-94	-33	-67	-9	30
Percent Change, Previous Qtr.	174	206	-36	-47	-	-	271	154	168	186
PIMA COUNTY	1,849	78,926	88	32,496	14	2,778	1,883	37,221	3,832	151,421
Percent Change, Previous Year	-37	-32	-35	-58	75	-24	-16	-31	-29	-40
Percent Change, Previous Qtr.	-5	-1	-16	-37	133	140	4	27	-1	-6
PINAL COUNTY	321	9,345	40	7,127	1	133	126	5,362	488	21,967
Percent Change, Previous Year	-36	-13	150	219	-	-	-69	74	-40	37
Percent Change, Previous Qtr.	-2	10	14	532	0	-56	-30	448	-10	102
SANTA CRUZ COUNTY	145	8,400	2	26	2	220	18	111	167	8,757
Percent Change, Previous Year	292	432	0	-93	100	54	50	-65	221	262
Percent Change, Previous Qtr.	254	342	-67	-91	-	-	800	122	234	293
YAVAPAI COUNTY	775	30,211	58	5,761	2	164	255	2,717	1,090	38,853
Percent Change, Previous Year	-12	-4	26	15	-33	8	-42	-5	-20	-2
Percent Change, Previous Qtr.	40	66	14	-37	-33	-5	25	34	34	26
YUMA COUNTY	176	5,338	26	5,019	2	161	180	18,149	384	28,667
Percent Change, Previous Year	-44	-41	30	-2	0	118	1	577	-27	60
Percent Change, Previous Qtr.	-55	-50	73	171	-33	40	-38	884	-45	66
TOTAL, ARIZONA	13,882	694,194	1,002	417,321	104	50,017	10,584	267,036	25,582	1,428,548
Percent Change, Previous Year	-19	-7	-22	-4	-22	19	-10	6	-18	-3
Percent Change, Previous Qtr.	0	11	2	16	37	40	16	58	6	20

*Includes mobile homes

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Center for Business Research, College of Business, Arizona State University

Growth Tempo Quickens for August Purchasing Indicators

The Arizona economy grew at a faster tempo in August. All purchasing indicators were positive, and both new orders received and production increased at a rate almost twice as great as in July. Arizona firms added to inventory in August, following July's slight decline. The only negative note is that prices increased at the highest monthly rate in more than three years.

After a summer pause, the Arizona economy now is back on the growth track and seems to be picking up steam. New order and production growth will continue over the balance of the year, boosting the economy to new, higher performance levels. The only major concern is that the rate of inflation is intensifying and may become a real problem for Arizona firms by year end.

PRICES

Prices paid for purchased goods and services registered their highest monthly increase rate in more than three years (since June 1984), as inflationary pressures continue to build. This speed-up in inflation likely will continue over the balance of the year, as increased operating rates cause spot shortages, and rising interest rates translate into higher production costs.

DELIVERY TIME

Delivery time on shipments from vendors stretched at the same rate as in July, signifying an expanding economy.

INVENTORY LEVELS

Inventory levels of purchased materials rose in August, after a slight decrease in July (the only decline so far this year). While the inventory buildup is not robust, it does create a source of demand, adding further substance to the expansion.

NEW ORDERS

New orders received by Arizona firms advanced in August at a much faster clip than in July (the August increase rate was twice as great). The strength shown in new order increases each month so far this year likely will continue over the balance of the year.

PRODUCTION

Production also increased at a much higher rate than in July. The production increase rate now is back up to the healthy levels recorded during the first half of 1987.

EMPLOYMENT

Employment grew in August but at a somewhat lower rate than in July. This was the eighth consecutive monthly gain and is a convincing sign that the Arizona economy is enjoying faster growth.

PURCHASES

Purchases of materials and supplies increased again in August and at a somewhat higher rate than in July. The purchases indicator has improved steadily during 1987, as needed to support the higher production levels.

– Harold Fearon

Dr. Fearon is the National Association of Purchasing Management Professor in the ASU College of Business.

Arizona Purchasing Survey

Now in its 25th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data gathered at the close of each month from members of the purchasing management associations of Arizona and southern Arizona. They indicate the direction - higher, unchanged, or lower - of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

TABLE 1
AUGUST PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (August compared to July)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	44	54	2
Delivery time from vendors	34	59	7
Purchased materials inventory level	30	47	23
New orders received	47	35	18
Production	42	43	15
Employment	27	58	15
Purchases	48	30	22

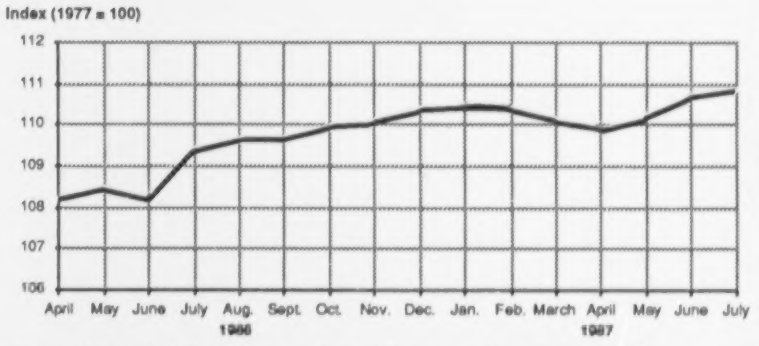
Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona

Arizona Leading Index Forebodes Still Slower Growth

The Arizona Index of Leading Economic Indicators advanced in July, marking three consecutive monthly gains. The July index rose to 110.9, an increase of .2 percent from June's 110.7 (see Figure I).

The index peaked in January, then fell for three months before entering its current upward swing. The July level of 110.9 is a new high for the index, although it is only a .4 percent advance over the January level of 110.5. The relatively modest growth in the Arizona index since summer 1986 has been accompanied by slower job creation, at a rate below that of the nation as a whole for the first half of 1987.

FIGURE I
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source: Economic Outlook Center, College of Business, Arizona State University

INDEX COMPONENTS

Although the index rose in July, six of the 10 components declined. Four of the five components derived from a survey of Arizona purchasing managers were down in July on a seasonally adjusted basis: delivery times, inventory levels, new orders, and production. The fifth component, employment, registered an increase. However, initial unemployment insurance claims also rose, creating a negative influence on the index. The money supply fell for the third consecutive month, its fifth decline in the last six months.

The greatest positive contribution to the index came from a rise in the value of residential building permits, which grew for the second consecutive month after three months of decline. Other positive influences were an increase in the manufacturing workweek and the acceleration of sensitive prices, a national indicator.

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution*			
	April	*May*	*June*	*July*
Delivery Time°	.01	-.04	.17	-.09
Inventory Levels°	-.08	.04	.03	-.08
New Orders°	-.06	.01	.10	-.10
Production°	-.04	.02	.01	-.07
Employment°	.00	-.04	.04	.03
Residential Building Permits	-.07	-.01	.12	.27
Unemployment Insurance Claims	.03	.04	-.05	-.01
Average Workweek, Manufacturing	-.09	.21	-.09	.07
Money Supply	.02	-.13	-.12	-.01
Change in Sensitive Materials Prices	.00	.14	.21	.10
OVERALL INDEX CHANGE (%)	-.2	.3	.5	.2

*The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

°Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Economic Outlook Center, College of Business, Arizona State University

OUTLOOK

With positive growth recorded for only four components, the diffusion computation (percent of components that are positive) yields a value of 40, usually associated with recessionary periods. However, the continuing upward movement of the index provides no basis for a recessionary warning, in spite of meager month-to-month gains.

At this time in 1986, the index was up 2.6 percent for the year, foretelling sluggishness for 1987. It may be worth underscoring that the index this year has risen only .4 percent since January. While this increase signals positive growth for 1988, the pace of that advance may be even slower than in 1987.

– **Lee R. McPheters,** *Director Economic Outlook Center*

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date Value	Year-to-Date Percent Change from Year Ago
GROSS STATE PRODUCT						
(In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	1st Qtr.	55.267	4.1	8.8	NA	NA
Arizona - 1982 Dollars	1st Qtr.	47.310	3.4	5.8	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	2nd Qtr.	200.7	1.4	4.2	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	July	110.9	0.2	1.4	NA	NA
BUILDING PERMITS						
(Total Dollar Value in Thousands)						
Maricopa County	July	361,742	13	-5	2,342,890	-6
Pima County	July	52,522	11	-17	365,544	-31
Balance of State	July	52,326	-32	-25	376,630	0
Arizona	July	466,590	5	-9	3,085,064	-9
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	July	2,731	34	-22	17,226	-42
Pima County	July	490	14	-60	4,126	-45
Balance of State	July	750	-24	-37	5,910	-24
Arizona	July	3,971	14	-33	27,262	-40
HOME SALES						
Maricopa County - Number	July	5,740	-11	6	36,590	8
Maricopa County - Median Price	July	80,800	-0.2	2.3	79,500	3.2
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix - New Homes	2nd Qtr.	96	-5.9	1.1	NA	NA
Metropolitan Phoenix - Resale Homes	2nd Qtr.	109	-10.7	0.9	NA	NA
MORTGAGE INTEREST RATES						
(Conventional, 30-year, Fixed-rate)						
Maricopa County	August	10.3	2.0	3.0	NA	NA
POPULATION ESTIMATES						
(In Thousands)						
Maricopa County	2nd Qtr.	1,970	0.6	3.6	NA	NA
Arizona	2nd Qtr.	3,440	0.6	3.2	NA	NA
ELECTRICAL POWER SALES						
(In Millions of Kilowatt Hours)						
Arizona	July	3,947	4.4	4.3	22,432	7.9

NA = Not Applicable

Source: Center for Business Research, College of Business, Arizona State University

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John Kraft, Dean
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Sandra Palais, Computer Specialist

SRI ACQUISITIONS
CONGRESSIONAL INFO SERVICE
4520 EAST-WEST HIGHWAY
BETHESDA MD 20814